described by Davis *, as one of the Cretaceous Dercetidæ, under the name of *Dercetis limhamnensis*. Both these determinations are undoubtedly erroneous, and the characters of the fossil, so far as preserved, are those of an Apodal fish.

As shown by the description and figure published by Davis (*loc. cit.*), this specimen comprises only the head, clavicle, and anterior part of the vertebral column of a long and slender fish. The head-bones are obviously thick and of open texture, quite unlike those of the Dercetidæ †; while the occipital and otic regions are sufficiently well preserved to indicate that they are eel-like and totally different from those of any known Gadidæ. All the remains, however, are in a crushed and broken condition, so that the details of the osteology are only vaguely observable. The teeth are very small and blunt. The vertebræ of the abdominal region are exposed from above or below, and chiefly remarkable for the large size of their transverse processes, which are laminar in form and taper to a point at their free end. These processes were correctly recognized by Lundgren and Dames, but were mistaken by Davis for scutes crushed upon the vertebral centra. The ribs are not preserved. A sigmoidally bent clavicle, exactly like that of an eel (described and figured by Davis as scapula), is displaced at some distance behind the head. There are no scales or scutes.

It is obvious that so imperfect a fossil cannot be satisfactorily determined either generically or specifically. The specimen, however, needs a name for reference. As it exhibits no characters separating it from the *Urenchelys* of the Lebanon Chalk, it may be provisionally referred to that genus. It is therefore to be regarded as representing a species, *Urenchelys limhamnensis* (Davis), which awaits adequate definition. It indicates a larger fish than the Lebanon species, and approaches *U. anglicus* in size.

XXII.—*Notes on* Hippoboscidæ (Diptera Pupipara) *in the Collection of the British Museum*. By Ernest E. Austen.

The following notes, which are chiefly concerned with synonymy and include no descriptions of new species, embody the conclusions at which the author has arrived while re-arranging

* J. W. Davis, "On the Fossil Fish of the Cretaceous Formations of Scandinavia," Trans. Roy. Dublin Soc. [2] vol. iv. (1890) p. 431, pl. xlv. figs. 1, 2.

† A. S. Woodward, Catal. Foss. Fishes B. M. pt. iv. (1901) p. 185, pl. xii. fig. 4.

the Hippoboscidæ in the British Museum (Natural History). Within the last few weeks the Museum has received from Mr. F. D. Godman the final instalment of the great collection of Central American Diptera worked out in the 'Biologia Centrali-Americana,' including the Hippoboscidæ described by the late F. M. van der Wulp (*cf.* Biol. Centr.-Amer., Diptera, vol. ii. pp. 429–432, April 1903). An examination of these shows that van der Wulp's determinations in many cases need revision, as indicated below under the genera concerned. The present paper is printed in the hope that it may prove of some slight service to other workers at this interesting family of Diptera, which, although previously much neglected, has within the last few years been so fortunate as to receive attention at the able hands of Dr. P. Speiser.

Hippobosca, Linn.

Hippobosca equina, L.—In this species the amount of yellow on the scutellum varies very much, and sometimes this portion of the thorax is nearly all yellow, as shown in certain specimens in the British Museum collection from the neighbourhood of Biskra, Algeria (*Rev. A. E. Eaton*). The colour of the scutellum, therefore, cannot be used as a character to distinguish *H. equina*, L., from *H. Francilloni*, Leach, for which purpose the colour of the veins of the wings must be relied upon.

This species must be added to the list in van der Wulp's 'Catalogue of the Described Diptera from South Asia' (The Hague: Martinus Nijhoff, 1896), since the Museum collection contains a male from Celebes (purchased from E. Gerrard, jun., 1896) and a female from "Bengal" (no further details); while a male from Kalewa, Upper Burma, March 1893, "found on pony" (*Capt. E. Y. Watson*), apparently represents a pale variety. A male from Noumea, New Caledonia, June 1900 (*J. J. Walker, R.N.*), was recently presented by Mr. G. C. Champion.

Hippobosca Francilloni, Leach: Memoirs of the Wernerian Natural History Society, vol. ii. (1818), p. 554, tab. xxvi. figs. 8–10.—According to Speiser (Zeitschr. f. Hymenopt. u. Dipt., ii. Jahrg. Heft 3 (1 May, 1902), p. 174), this species (of which *H. canina*, Rond., is a synonym) = *H. capensis*, v. Olfers, the type of which, from the Cape of Good Hope, is in the Museum für Naturkunde, Berlin. Von Olfers's

species was published in 1816 *; the paper in which Leach's species was described, though read on April 10, 1810, was not published until 1818. Thus, strictly speaking, von Olfers's name has two years' priority over Leach's; but since Leach was certainly not responsible for the delay of eight years in publishing his paper, the stringency of the law of priority may well be relaxed in his favour in this instance, and the name *Francilloni* may be allowed to stand.

H. Francilloni, which is well known in India and Ceylon as a pest of dogs, must be added to van der Wulp's catalogue already referred to. The Museum collection includes specimens from Kant, near Shahjahanpur, North-West Provinces, India, 29. xi. 1900 (*Lieut.-Col. Giles*); and others from Trincomali and Kanthalla, Ceylon (*Lieut.-Col. Yerbury*). We also possess specimens from Japan (*S. Bligh*), and a male from Seoul, Korea, 17. vii. 1900 (*Hon. E. Scarlett*), "caught on a Japanese dog." The species also occurs in Africa, and we have recently received a series of specimens from various localities, including Voi, Ndi, Mbuyuni, Makumbu, and Samburu, in British East Africa; in addition to these we possess specimens from "the interior of South Africa," presented in 1843 by the Earl of Derby. From North Africa we have specimens from Suez, Nov. 1901 (*F. Morey*). In 1901-1902 the species was obtained in Cyprus (Troodos, about 4500 feet, and near Ktima) by Miss D. M. A. Bate. It may be worth while to add that the Museum collection contains a female bearing the label "*Francilloni*" in Leach's handwriting, but it is impossible to say with certainty that this specimen is the actual type.

Hippobosca camelina, Leach: *op. cit.* p. 556, tab. xxvii. figs. 11–14.—The name *Hippobosca dromedarina* has recently been proposed by Dr. Speiser (*loc. cit.* p. 176) for *H. camelina*, Rond. (*nec* Leach), but I venture to think that the form referred to is not really distinct. The British Museum collection includes a long series of specimens of *H. camelina*, Leach, as also of *H. maculata*, Leach, and in both of these species there is a considerable variation (from ferruginous to deep brown) in the ground-colour of the thorax. Moreover, as shown by our specimens, in the case of *H. camelina* at any rate, the dark and light forms may occur in the same locality.

* Not 1815, as stated by Speiser (*loc. cit.*): *Hippobosca capensis* was described in von Olfers's pamphlet, 'De Vegetativis et Animatis Corporibus in Corporibus Animatis Reperiundis Commentarius,' pars i. (Berolini: in Taberna Libraria Maureriana), p. 101.

Speiser follows Rondani in relying on the coloration of the hair on the clypeus and apex of the abdomen, and he uses these characters to distinguish what he now calls *H. dromedarina* from what he regards as the true *H. camelina*, Leach; but he also considers that the two supposed species may be distinguished by the colour of the thorax, the paler form being *H. camelina*, the darker *H. dromedarina*, Speiser. It is curious that Speiser should come to the conclusion, from the examination of Leach's original description and figure, that *camelina* was based on the pale form, since a glance at the coloured figure (in the Museum copy of Leach's paper, at any rate) is sufficient to show that it represents the *dark* and not the pale form. A still better argument, however, is supplied by the type itself, which is in the Museum collection and bears a label in Leach's handwriting. This specimen (a female, as indicated by Leach's figure) belongs to the *dark* form, but has *pale hair on the clypeus and abdomen*. According to Speiser, the true *H. camelina*, Leach, is pale brown in colour, with pale hair on clypeus and apex of abdomen; while what he calls *H. dromedarina* is dark blackish brown, with black hair on the clypeus, and on the abdomen black hairs mingled with the pale ones. A series of specimens in the Museum collection, from Algeria (*Rev. A. E. Eaton*), with one exception agree with the type in belonging essentially to the dark form, although the hair on clypeus and abdomen is pale. The specimen which constitutes the exception also has the ground-colour of the thorax dark, but the clypeus is fringed with black instead of with pale hair, and the apex of the abdomen is clothed with hair which is black at the base instead of entirely pale; it may be added that this specimen was bred and is accompanied by its puparium. In two females from Shaik Othman, near Aden, Arabia, 4. iii. 1895 (*Lieut.-Col. Yerbury*), which belong to the dark form, the hair fringing the clypeus is certainly dark brown at the base, but that on the abdomen is as light-coloured as in the pale form; on the other hand, in a male from Arabia (*J. K. Lord*) belonging to the dark form the hair on clypeus as well as abdomen is entirely pale. It is to be hoped that enough has now been said to show that we are here dealing with but a single species, which is variable as regards the ground-colour of the thorax, and sometimes as regards the colour of the hair on the clypeus and abdomen, and that *Hippobosca dromedarina*, Speiser, like *H. bactriana*, Rond., must be considered a synonym of *H. camelina*, Leach.

The Museum collection includes a series of some thirty-three specimens of *H. camelina*, Leach, from various localities

ranging from Somaliland to Algeria and from Aden to Trebizond. We also have a female from Chaman, S. Afghanistan, 28. vii. 1880, "collected at mess, at 11.0 P.M." (*Col. Swinhoe*), so that the species constitutes a further addition to van der Wulp's South Asia catalogue.

Hippobosca maculata, Leach: *loc. cit.* p. 553, tab. xxvi. figs. 11–13.—This species must also be added to van der Wulp's catalogue. The Museum possesses a series of some twenty-seven examples, chiefly from various localities in India and Ceylon, but also including specimens from Arabia and Egypt, and I have recently seen a female from W. Africa (Abutshi, R. Niger). The type of the species—a female, labelled in Leach's handwriting—is also in the Museum collection.

Hippobosca rufipes, von Olfers: De Vegetativis et Animatis Corporibus in Corporibus Animatis Reperiundis Commentarius, pars i. (1816), p. 101.—In addition to a considerable number of specimens of this species from various localities in South Africa, the British Museum possesses a female from Bembe Mines, Angola, W. Africa, lat. 7° 22′ S. (*J. J. Monteiro*), and a male and female from the Congo (*A. Curror*).

Hippobosca struthionis, Janson: in Miss E. A. Ormerod's 'Notes and Descriptions of a Few Injurious Farm and Fruit Insects of South Africa' (London: Simpkin, Marshall, & Co., 1889), p. 56, fig. 23.—This species is of peculiar interest, since it was described as parasitic on *ostriches* in Cape Colony. It is true that the typical specimen of *Hippobosca rufipes*, von Olfers, was found by Lichtenstein on an ostrich at the Cape of Good Hope, but it was suggested by von Olfers that the true host may have been the quagga, which was frequently to be met with among the ostrich-flocks (*cf.* von Olfers, *loc. cit.*). In the case of *H. struthionis*, however, the flies were stated to be in "thousands" on ostriches at Mount Stewart, Cape Colony, in May 1886, and to have increased in numbers to such an extent in the two preceding years as to render it probable that the ostrich-feather industry might suffer owing to the irritation to the birds caused by the flies (*cf.* Ormerod, *op. cit.* p. 58). Whether *Hippobosca struthionis* is still a pest on South-African ostrich-farms I am not aware, but that the species is not confined to South Africa is shown by the fact that we have recently received a series of specimens from British East Africa, viz.: two males and two females from Makumbu and Athi-ya-Mawe, Feb.–May 1899 (*C. S. Betton*); and a female from Ukamba, Machakos

(*Capt. R. Crawshay*). Janson's figure of *H. struthionis* is of no value for purposes of determination, but since the typical specimen is now in the British Museum I have been able to determine the material from East Africa with certainty. *Hippobosca struthionis* is a well-marked species, which cannot be confused with any other known to me: the yellow markings on thorax and scutellum are sharply defined against a dark-brown ground. The East-African specimens show two small lateral yellow dots on the scutellum, one on each side of the median fleck; these lateral spots are wanting in the type, but it is impossible to consider the East-African specimens as belonging to a distinct species, especially since the lateral spots vary greatly in size in different individuals. In one or two of our specimens they are extremely small, and thus their absence altogether is doubtless merely due to individual variation.

Hippobosca tasmanica, Wesché: Ann. & Mag. Nat. Hist. ser. 7, vol. xi. no. 64 (April 1903), p. 385, figs. 1–4 p. 384.—This species, of which, through the courtesy of Mr. Wesché, the type and two other specimens are now in the Museum collection, belongs to the genus *Ortholfersia*, Speiser (Zeitschr. f. syst. Hymenopt. u. Dipt., ii. Jahrg. Heft 3 (1 May, 1902), p. 152—typical species, *Ortholfersia phaneroneura*, Speiser, *loc. cit.*, from New South Wales. *Ortholfersia tasmanica* is said to swarm on diseased wallabies (*Macropus ruficollis*) near Launceston, Tasmania.

In the 'Agricultural Gazette of New South Wales' for Dec. 1900, pp. 1090–1091, W. W. Froggatt describes, under the name of "the wallaby fly (*Olfersia Macleayi*, Leach)," a fly which is said to infest all the wallabies in the district of Port Macquarie, New South Wales. It is stated that "in the Australian Museum there are specimens taken upon *Halmaturus* [*Macropus*] *ruficollis* and *H. Perryi*." The fly is figured in a plate (figs. 3 & 4), and it is evident that it belongs to the genus *Ornithomyia*. The species was subsequently described by Speiser (Termés. Füz. xxv. (1902), p. 331) under the name *Ornithomyia perfuga*. The existence of *Hippobosca struthionis*, Jans., upon a bird is thus paralleled by the occurrence of an *Ornithomyia* upon mammals.

Lipoptena, Nitzsch.

Lipoptena cervi, L.—The British Museum has just received a specimen of this species from Modderfontein Factory, 14 miles south of Johannesburg, Transvaal. The insect (a male which has cast its wings) was taken, with others of the same

species, in February 1901, by Mr. P. S. Stammwitz on himself, after carrying with him on his horse a dead "Duikerbok" (? *Cephalophus* sp.), which he had shot. The occurrence of the European *Lipoptena cervi* in South Africa is certainly remarkable, but having carefully compared this specimen with others (presented by the late J. C. Mansel-Pleydell) from Whatcombe, Dorsetshire, from roe-deer, I am satisfied as to its specific identity. Of course, it is possible that the *Lipoptena* may originally have come from a *horse*, and not from the Duiker. At the time referred to, Mr. Stammwitz was serving in the South-African Constabulary, and the horse that he was riding when carrying the Duiker was an "Argentine," so that it is scarcely likely that the *Lipoptena* came from this particular horse. But it is conceivable that some time during the late South-African Campaign these flies or their parents may have been introduced with remounts from Europe. Although normally parasitic on roe- and red-deer and on elk *, *Lipoptena cervi* sometimes strays on to horses. The Museum collection includes a specimen from Whatcombe, Blandford, Dorset (*J. C. Mansel-Pleydell*), which was "taken from a horse after passing through hazel-bushes" in a wood frequented by roe-deer, on Oct. 17, 1895. As we know, various species of *Hippobosca* are capable of existing on more than one species of host, and it is just possible that specimens of *Lipoptena* that have strayed on to horses may afterwards be carried with them to other countries. If this explanation is not the true one in the present case, it may be suggested as an alternative hypothesis that *Lipoptena cervi* has been a parasite of African antelopes as well as of European deer since the Tertiary period, when, as is well known, direct land-connection existed at various times between Europe and Northern Africa.

In addition to *Lipoptena cervi*, the Museum collection includes two specimens of a distinct and much smaller species which is as yet undetermined, from Orizaba, Mexico (*Sallé*).

Ornithomyia, Latr.

Ornithomyia avicularia, L.—*Ornithomyia remota*, Walk. (List Dipt. iv. (1849), p. 1144), from Tristan d'Acunha, and *O. opposita*, Walk. (*ibid.* p. 1145), from New Zealand, are synonyms of *O. avicularia*, Linn. *Feronia Macleayi*, Leach (*loc. cit.* p. 558), is also in all probability a synonym of *O.*

* *Cf.* J. P. E. F. Stein, "Zur Naturgeschichte der Lausfliege, *Lipoptena cervi*, Nitzsch," Deutsche entomologische Zeitschrift, Jahrg. xxi. (1877), pp. 297–298.

avicularia; at any rate, the specimen called by Walker (List Dipt. iv. p. 1141) *Olfersia Macleayi* belongs to this species.

Ornithomyia avicularia, van der Wulp (*nec* Linn.: Biol. Centr.-Amer., Diptera, vol. ii. (April 1903), p. 431), is in reality very distinct from *O. avicularia*, Linn., and belongs to *Ornithomyia varipes*, Walk. (List Dipt. iv. (1849), p. 1146), the type of which is from Colombia (*Goudot*). Other specimens of *O. varipes* in the British Museum collection are: a female from Huamachuca, Peru, 3000 metres, Nov. 1899 (*Simon*); a second female from Orizaba, Mexico (*Sallé*); and a third from the mountains of Molokai I., Sandwich Is., 3000 ft., 12. v. 1893 (*Perkins*). The latter is the specimen mentioned by Speiser ('Fauna Hawaiiensis,' Diptera, Supplement, p. 89).

In 'Természetrajzi Füzetek,' vol. xxv. (1902), pp. 327–331, Dr. Speiser divides the genus *Ornithomyia* into three genera, viz.: *Ornithomyia*, Latr., *sens. strict.* (typical species *Hippobosca avicularia*, Linn.); *Ornithoctona*, gen. nov. (typical species *Ornithomyia erythrocephala*, Leach); and *Ornitheza*, gen. nov. (typical species *Ornithomyia Gestroi*, Rond.). *O. varipes*, Walk., would appear to belong to *Ornitheza*; nevertheless *Ornithomyia obscurata*, Walk. (Journ. Proc. Linn. Soc. v. p. 270), from Tondano, Celebes (*A. R. Wallace*), which, in spite of the great difference in locality, appears to me to be probably identical with *O. varipes*, Walk., is assigned by Speiser (*loc. cit.* p. 329) to *Ornithoctona*.

Ornithomyia robusta, v. d. Wulp (*op. cit.* p. 431, tab. xiii. figs. 5, 5 *a*, 5 *b*, 5 *c*) = *O.* (*Ornithoctona*) *erythrocephala*, Leach. The shape of the antennary processes is better represented in the coloured figure (5) than in the outline drawing (5 *a*). The five specimens are all females, and not as stated by van der Wulp.

Ornithomyia pilosula, v. d. Wulp: *op cit.* p. 432, tab. xiii. figs. 6, 6 *a*.—This species closely resembles *O. varipes*, Walk., in size and general appearance. The antennary processes, however, although large and lanceolate, are narrower than in that species, more elongate, and more pointed at the tips. Their apical halves are somewhat divergent, and the species should probably be assigned to the genus *Ornitheza*, Speiser. It is stated by van der Wulp that *O. pilosula* "agrees in most respects with the European *O. avicularia*"; but the shape of the antennary processes is entirely different. The figure of the head (tab. xiii. fig. 6) is misleading, since it gives no idea of the true shape of the orbital margins, which, like those of *O. varipes*, are greatly expanded posteriorly.

Ornithomyia batchianica, Walk. (Journ. Proc. Linn. Soc. v. p. 300), from Batchian, = *O.* (*Ornithoctona*) *nigricans*, Leach (*op. cit.* p. 558, tab. xxvii. figs. 7–10).

Ornithomyia (*Ornithoctona*) *erythrocephala*, Leach: *op. cit.* p. 559, tab. xxvii. figs. 4–6.—The type of this species, bearing a label in Leach's handwriting, is in the Museum collection.

Ornithoica, Rond.

Cf. Speiser, Ann. Mus. Civ. Genov. ser. 2, vol. xx. (1899), pp. 555.—For synopsis of species, see Speiser, *ibid.* pp. 558–559, and Természetrajzi Füzetek, vol. xxv. (1902), p. 332.

Ornithomyia vicina, Walk. (List Dipt. iv. p. 1144), from Jamaica, on *Ephialtes grammicus* and *Psittacus leucocephalus*, belongs to this genus, and may be identical with *O.* (*Ornithomyia*) *confluenta*, Say.

Ornithoica beccariina, Rond. (Ann. Mus. Civ. Genov. xii. (1878), p. 160), the type of the genus *Ornithoica*, from Amboyna, on *Ardea alba*, is identical with *O.* (*Ornithomyia*) *exilis*, Walk. (Journ. Proc. Linn. Soc. v. (1861), p. 254), from Dorey, New Guinea. In spite of the great difference in locality, *O. exilis* is possibly identical with *O. vicina*, Walk.; if so, the latter name has priority. It has just been pointed out, however, that *O. vicina*, Walk., perhaps = *O. confluenta*, Say, in which case *O. beccariina*, Rond., and *O. exilis*, Walk., are also synonyms of *O. confluenta*, Say. My knowledge of this group is unfortunately insufficient to enable me to decide this question, and all I can say is that after carefully comparing our specimens of *O. confluenta*, *vicina*, and *exilis*, I have been unable to discover any characters which would warrant a positive assertion of their distinctness.

Ornithophila, Rond.

Ornithomyia simplex, Walk. (Journ. Proc. Linn. Soc. v. p. 263), from Menado, Celebes (*A. R. Wallace*), belongs to this genus; as also does an undetermined specimen from Natal (*Gueinzius*), and another, with unusually long palpi, from Port Molle, Queensland (H.M.S. 'Rattlesnake'; collected by *Macgillivray*), from *Tallegalla Lathami*.

Stilbometopa, Coquillett.

This genus was founded (Canad. Ent. xxxi. (1899), p. 336) for *Ornithomyia fulvifrons*, Walk. (List Dipt. iv. p. 1145), from Jamaica, of which, including the type, we have five

specimens, from the following hosts: *Ortyx virginiana*, *Saurothera vetula*, *Geotrygon sylvatica*, *G. montana*, and *Tityra leuconotus*.

A single female from St. Domingo (*Tweedie*) belongs to a distinct species, which I have not as yet determined.

According to Speiser (Zeitschr. f. syst. Hymenopt. u. Dipt. ii. Jahrg. Heft 3 (1 May, 1902), p. 163), *Olfersia impressa*, Bigot (Ann. Soc. Ent. Fr. 1885, p. 237), from California, belongs to this genus.

Olfersia, Wied.

The type of *Feronia americana*, Leach (*op. cit.* p. 557, tab. xxvii. figs. 1–3), which has been adopted as the typical species of this genus, is in the Museum collection, and bears a label in Leach's handwriting.

Ornithomyia plana, Walk. (Journ. Proc. Linn. Soc. v. p. 254), from Dorey, New Guinea, is an *Olfersia*.

Ornithomyia intertropica, Walk. (List Dipt. iv. (1849), p. 1144), is also an *Olfersia*. The type of this species was obtained (with three other specimens) by Charles Darwin in the Galapagos Is.; the other examples of *O. intertropica* contained in the Museum collection include one male and two females from Honolulu, Sandwich Is. (*H. Pease*), "from the ear of an owl"; a female from Orizaba, Mexico (*Sallé*); and two females from Bahia, Brazil.

Olfersia acarta, Speiser (Zeitschr. f. syst. Hym. u. Dipt., ii. Jahrg. Heft 3, p. 149; see also Fauna Hawaiiensis, Diptera, Supplement, p. 87), appears to me, after comparing three of the specimens obtained by Perkins on short-eared owls in Kona, Hawaii, which were determined by Speiser and are now in our collection, to be identical with *O. intertropica*, Walk. It may be worth while to note that the actual *type* of *O. acarta*, Speiser, is in the Bremen Museum (*cf.* Speiser, Zeitschr. f. syst. Hym. u. Dipt., ii. Jahrg. Heft 3, p. 151).

Olfersia vulturis, v. d. Wulp: *op. cit.* p. 429, tab. xiii. figs. 1, 1 *a*.—This species has the clypeus greatly elongated, and consequently belongs to the genus *Pseudolfersia*, Coquillett (Canad. Ent. xxxi. (1899), p. 336). The figure of the head gives no indication of the shape of the clypeus, and is quite misleading; the venation, as represented in the figure of the wing, is also incorrect in details; the posterior basal cell is complete, though the anterior basal transverse vein is,

as usual, non-chitinized immediately before joining the fourth vein.

The typical specimens are male and female.

Olfersia coriacea, v. d. Wulp: *op. cit.* p. 430, tab. xiii. figs. 2, 2 *a*.—Two specimens are mentioned by the author—one from Presidio, Mexico (*Forrer*), the other from Mirandilla, Guatemala (*Champion*). The former specimen (a male) belongs to *Olfersia propinqua*, Walk. (List Dipt. iv. p. 1141 (1849)), the type of which is from Jamaica. The specimen from Mirandilla, on the other hand, which is also a male, and must be regarded as the actual type of *O. coriacea*—since it is the specimen figured, while, from internal evidence, the description appears to have been based upon it,—is a *Pseudolfersia*, Coquillett, under which genus it has been placed in the Museum collection. Van der Wulp having apparently relied upon this latter specimen in preparing his description, there is no necessity to cancel the species, which may therefore be allowed to stand as *Pseudolfersia coriacea*, v. d. Wulp. In tab. xiii. fig. 2, the drawing of the clypeus is misleading, and conveys no idea of its true length; details of the venation (fig. 2 *a*) are also inaccurate.

The British Museum collection contains two other specimens, previously undetermined, that I have referred to the present species—a female from Orizaba, Mexico (*Sallé*), and another from the Rio Tapajos, Brazil (*W. Bates*).

Olfersia angustifrons, v. d. Wulp: *op. cit.* p. 430, tab. xiii. figs. 3, 3 *a*.—This is a true *Olfersia*, belonging to the group in which the palpi are proportionately elongate. A third specimen (a gravid female) from Oajaca, Mexico (*Sallé*), is in the Museum collection.

Pseudolfersia, Coquillett.

Pseudolfersia (*Feronia*) *spinifera*, Leach: *op. cit.* p. 557, tab. xxvi. figs. 1–3.—As has been suggested by Speiser (Zeitschr. f. syst. Hym. u. Dipt., ii. Jahrg. Heft 3 (1 May, 1902), p. 147), *Ornithomyia unicolor*, Walk. (List Dipt. iv. p. 1144), from Jamaica, is a synonym of this species. According to Walker (*loc. cit.*), the type of *O. unicolor* and a second specimen from Jamaica were found on *Ephialtes grammicus* and on *Fregata aquila*. Our other specimens of *Pseudolfersia spinifera* include a male from Pará, Brazil, 23.iv.1899 (*W. A. Churchill*), from *Catharistes urubu*; a female from Ascension (*T. Conry*); a female from Little Aden, Arabia, 6. iv. 1895 (*Lt.-Col. Yerbury*), "taken on a booby"

(*Sula fiber*); two males from Abd-el-Kuri, near Socotra, 23. ii. 1899 (*W. R. Ogilvie Grant*), "from *Sula sula*"; two males from Christmas I. (*H.M.S.* '*Flying-Fish*'); one male and two females from Adele I., N.W. Australia, 2. v. 1891 (*J. J. Walker, R.N.*).

For remarks on the association of this species with the frigate-bird (*Fregata aquila*, L.) and its wide distribution, see Speiser, Zeitschr. f. syst. Hym. u. Dipt., ii. Jahrg. Heft 3 (1 May, 1902), pp. 146–147. It is stated by Speiser (*loc. cit.* p. 147) that the fly met with by Darwin on St. Paul's I., Atlantic Ocean *, evidently belongs to this species. The two specimens obtained by Darwin on this remote islet are in the British Museum collection, and were doubtfully referred by Walker (List Dipt. iv. p. 1143) to *Ornithomyia* (*Hippobosca*) *nigra*, Perty (Del. Anim. Art. p. 190, pl. 37. fig. 15), which is in reality a *Pseudolfersia*. It seems to me that Walker's provisional determination is correct, and that Darwin's specimens really belong to *Pseudolfersia nigra*, Perty, which is very possibly merely a synonym of *Pseudolfersia spinifera*, Leach. Nevertheless, I prefer for the present to keep the two supposed species distinct, especially since Darwin's specimens, in addition to being smaller than the average size of *Ps. spinifera*, are also in bad condition.

XXIII.—*On some new Genera and Species of Parasitic Hymenoptera from the Khasia Hills, Assam.* By P. Cameron.

Joppini.

Achaius, gen. nov.

Apex of abdomen bluntly pointed; the keel on segments 1–4. Mandibles unequally toothed, the upper much larger than the lower. Clypeus not distinctly separated from the face, its apex transverse. Labrum projecting. Scutellum convex. Median segment completely areolated, its apex with an abrupt oblique slope; the areola distant from the base, large, longer than broad, extending to the top of the apical slope; it is bluntly rounded behind, its apex slightly rounded backwards. The sides of the segment bear stout, longer than broad, teeth; the spiracles linear. Legs longish,

* *Cf.* Darwin's 'Journal' (ed. 1839), pp. 7–10: the geographical position of St. Paul's I., on which the booby and the noddy were the only birds found, is 0° 58′ N. lat., 29° 15′ W. long.